DOCUMENT RESUME

ED 469 414 PS 030 683

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TITLE	Children's Social and Emotional Competence in Head Start Classrooms: Observational Methods.
PUB DATE	2002-06-00
NOTE	31p.; Paper presented at the Head Start National Research Conference (6th, Washington, DC, June 26-29, 2002).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC02 Plus Postage.
DESCRIPTORS	At Risk Persons; *Emotional Response; *Interpersonal Competence; Low Income Groups; Observation; *Preschool Children; Preschool Education; *Social Behavior; *Social Cognition; *Student Adjustment; Verbal Ability
IDENTIFIERS	*Emotional Expression; Project Head Start

ABSTRACT

Noting that low-income children are at risk for early school difficulties and that social and emotional competencies are hypothesized to be crucial for early school success, this study used naturalistic observations to provide descriptive information about low-income children's emotional and social competence in school settings. The specific goals of the study were to assess children's emotional and social behavior in the classroom and to examine associations among observed behavior, social-cognitive skills, and teacher-rated child functioning. Participating in the study were three Head Start preschoolers who were observed in their classrooms; emotion displays and social engagement states were coded in real time using handheld computers. Observations were conducted twice during free play for 10 minutes each. Children were also interviewed to assess emotion understanding, and given the Peabody Picture Vocabulary Test verbal skills; teachers reported on children's social skills, emotional regulation, problem behaviors, and early classroom adjustment. Findings revealed that children's observed emotion displays were related to observed social engagement (such as conflict or prosocial behavior), and emotion displays and social engagement were related to social-cognitive skills such as emotion knowledge and verbal abilities. Teacher reports of child functioning were also related to observed behavior. (Contains 31 references.) (KB)

Running Head: OBSERVATIONAL METHODS

Children's Social and Emotional Competence in Head Start Classrooms: Observational Methods

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Abstract

Low-income children are at risk for early school difficulties; social and emotional competencies are hypothesized to be crucial for early school success. We used naturalistic observations to provide rich descriptive information about low-income children's emotional and social competence in school settings. Specific goals were to describe children's emotional and social behavior in the classroom and to examine associations among observed behavior, social-cognitive skills, and teacher-rated child functioning. Thirty-one Head Start preschoolers were observed in their classrooms; emotion displays and social engagement states were coded in real time using handheld computers. Children were interviewed to assess emotion understanding and verbal skills, and teachers reported on children's social and emotional competence and early school adjustment. Children's observed emotion displays were related to observed social engagement (e.g., conflict, prosocial behavior), and emotion displays and social engagement were related to social-cognitive skills (e.g., emotion knowledge, verbal abilities). Teacher reports of child functioning were also related to observed behavior. Our use of multiple methods and informants, including ecologically valid naturalistic observations, provided unique information about low-income preschoolers' emotional and social competence in the classroom setting. Findings are discussed with regard to implications for classroom practice and policy.

Children's Social and Emotional Competence in Head Start Classrooms: Observational Methods

Low-income children are at risk for behavioral, social, and academic problems as early as preschool (Arnold, 1997; Harden, Winslow, Kendziora, Shahinfar, Rubin, Fox, Crowley, & Zahn-Waxler, 2000; Kaiser, Hancock, Cai, Foster, & Hester, 2000; Webster-Stratton & Hammond, 1998; Yoshikawa & Knitzer, 1997). Advocates of preschool enrichment programs for disadvantaged children have touted the significance of social competence (e.g., Raver & Zigler, 1997), and recently there has been increased theoretical attention to the importance of emotional competence for low-income children's early school adjustment (Blair, 2002; Raver, 2002; Shields, Dickstein, Seifer, Giusti, Magee, & Spritz, 2001). Emotional competence becomes particularly important in challenging social situations (Denham, 1998). The transition into preschool, an important developmental task of early childhood, is often highly challenging for young children due to the increased structure of the classroom setting and the large and unfamiliar peer group (Belsky & MacKinnon, 1994). The preschool setting thus provides a developmentally salient social context in which to study social and emotional competence and relations with early school adjustment.

It may be particularly challenging for impoverished preschoolers to perfect the social and emotional competence skills needed in the classroom environment because the hazards often associated with living in poverty (e.g., family instability, neighborhood violence) are emotionally distressing and may lead to dysregulated classroom behavior (McLoyd, 1998). Low-income children's emotional competence in particular has been infrequently studied, however, with regard to children's adjustment in school (Jones & Garner, 1998). Assessing social and emotional behavior in the preschool setting is crucial if we wish to understand associations between emotional competence, social competence, and early school adjustment for low-income children, who are at risk for difficulty in these areas. Yet, we lack rich descriptive data about emotional and social behavior in school settings. In the current investigation, we used naturalistic classroom observations to assess low-income children's social and emotional competence in the

classroom setting, and examined associations between observed classroom behaviors and other indices of child adjustment, measured using child interviews and preschool teacher reports of child functioning.

The classroom is a busy place that can be emotionally and socially challenging for preschoolers. Young children must often control strong emotions in order to remain engaged in positive social interactions with peers and avoid conflict (e.g., when sharing toys). Emotion displays are important social signals that shape and organize peer engagement (Campos, Mumme, Kermoian, & Campos, 1994; Lemerise & Arsenio, 2000); they can be the "spark" that characterizes a social interaction as a fun game or an angry conflict. For example, smiling may motivate a peer to engage as a play partner, looking sad may communicate hurt feelings and promote empathy (Eisenberg & Fabes, 1992), and angry outbursts may keep others away. Thus, emotional behavior in the classroom setting is an important aspect of emotional and social competence.

To manage the potentially chaotic nature of the preschool classroom, teachers typically have clear rules and expectations for children's social and emotional behavior. For example, children are generally expected to learn to share toys with peers without angry outbursts, to control aggression, and to regulate their motor behavior (e.g., no running in class), all in addition to participating in class activities (e.g., circle time) and learning academic material (e.g., letters, numbers, reading). Such expectations can place heavy demands on a child's emotional coping resources. Children who demonstrate better social and emotional competence skills in the classroom may thus be in a better position to adjust well to school, and to engage in the learning activities that lead to future academic success (Raver, 2002).

In the current study, we assessed behavioral aspects of emotional and social competence using observational methods. We aimed to examine how children's emotional behavior in the preschool setting related to social engagement with peers, and used handheld technology to conduct unobtrusive live naturalistic observations of children's social and emotional behavior in

the classroom context. We also gathered teacher report and child interview data to assess how classroom behavior related to other indices of child competence. Our first goal was to gather descriptive data about low-income children's emotional and social competence in the preschool classroom social setting. Our second goal was to examine associations between the behaviors we observed, children's social-cognitive and verbal skills, and teacher reports of child functioning in different areas relevant for early school adjustment.

Method

Participants

Participants were 31 children attending Head Start. Families were approached during summertime classroom placement screenings and classroom open houses at a local Head Start program and asked if they would be willing to have their child participate in the study. At the time of data collection, children ranged in age from 3.4 to 5.2 years ($M = 4.28$, $SD = .51$; 58% female). Forty-two percent of children were Caucasian, 19% were African-American, 19% were Latino, and 19% were Mixed Race/Ethnicity. Mean income for participating families was $9200.00 per year (range: $1,973-29,659), with an average of 3.8 people in the home.

Procedure

In the Spring (March-April) of the preschool year, independent observers (two postdoctoral-level psychologists) observed children in their classrooms to assess emotional and social behavior. Teachers completed questionnaires about children's emotion regulation, social skills, problem behaviors, and classroom adjustment. Children were interviewed individually by a research assistant to assess verbal skills and social-cognitive skills regarding emotion (emotion knowledge and understanding).

Classroom Observations. Handheld computers were used to conduct in-vivo observations (Psion Workabout, Noldus Technologies). Each child was observed twice during free play (e.g., playing house, table toys, blocks) for 10 minutes each, for a total of 20 minutes of observation per child. Coders trained until they achieved intraclass correlations of .80 or greater

for each code (ongoing coder reliability ranged from .57 to .96). Three streams of behavior were recorded: affective states, social engagement states, and target events (described below).

Seven mutually exclusive, exhaustive, time-based affective states were coded (adapted from Miller & Olson, 2000). These included Neutral, Positive, Mild Negative, Sadness, Anger, Behavioral Dysregulation, and Emotionally Negative Dysregulation. Six mutually exclusive, exhaustive social engagement states were coded (adapted from Fantuzzo, Coolahan, Mendez, McDermott, & Sutton-Smith, 1998). These included Conflict, Solitary Nonplay, Solitary Constructive, Social Attention, Interaction, and Collaborative Play. Coders recorded the onset and offset of each state, yielding a continuous stream of affective and social engagement states, which were reduced to yield a proportional duration score (see below). Target events included Aggression, Mild Antagonism, and Prosocial. Coders documented each time an event occurred; data were reduced to yield a frequency of each type of event.

Teacher Report Data.

Emotion Regulation. The 24-item Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) was used to measure child emotion regulation. Teachers were asked to rate on a 4-point scale how characteristic each item is of a child ("almost always" to "never"). Subscales represent Regulation (7 items; Cronbach's α=.82), Dysregulation (8 items; Cronbach's α=.89), and Lability (9 items; Cronbach's α=.88). [Note that these subscales differ slightly from Shields and Cicchetti's.]

Social Skills. The Cooperation (10 items; Cronbach's α=.91), Assertion (10 items; Cronbach's α=.89), and Self-Control (10 items; Cronbach's α=.89) subscales of the Social Skills Rating Scale (SSRS; Gresham & Elliott, 1990) were used to measure social skills. The 7-item Prosocial subscale of the Child Behavior Scale (CBS; Ladd & Profilet, 1996) was used to assess prosocial behavior (Cronbach's α=.90). Teachers also reported on withdrawn peer functioning by completing 7-item Peer Exclusion subscale from the CBS (Cronbach's α=.93). Instruments

use 3-point response scales that have been adapted slightly to read "never", "sometimes", and "very often".

Problem Behaviors. Problem behaviors were assessed using the Preschool Behavior Questionnaire (PBQ; Behar & Stringfield, 1974), which measures Hostile/Aggressive (11 items; Cronbach's α=.94), Anxious/Fearful (9 items; Cronbach's α=.82), and Hyperactive/Distractible (4 items; Cronbach's α=.90) behavior on a 3-point scale from "does not apply" to "certainly applies".

Classroom Adjustment. The 9-item Classroom Adjustment Scale (CAS; Shields et al., 2001) was used to measure classroom adjustment (Cronbach's α=.95). This measure captures a child's level of adaptation to classroom routines, the development of relationships with peers and teachers, and the acquisition of academic knowledge (i.e., letters, numbers). Teachers rated items on a 7-point scale ranging from "continues to have significant problems" to "adjusted quickly and easily".

Child Interview Data. Standardized interview techniques were used to assess children's verbal skills, emotion knowledge, and emotion understanding. Interviews were conducted by research assistants in a quiet, semi-private area of the school and typically took about 15 minutes to complete. Interviews involved the research assistant using various methods (vignettes, puppet stories) to describe situations and enact stories for the child in order to elicit information from the child about how the protagonist felt in each story.

Verbal Skills. The Peabody Picture Vocabulary Test (PPVT-R) was administered to assess children's verbal skills. [The PPVT is a test of vocabulary that has been shown to have significant predictive value regarding school achievement (Dunn & Dunn, 1981).]

Emotion Knowledge. To assess emotion knowledge, children were asked to label pictures of facial expressions (Denham, 1986). They were shown a series of four drawn feeling faces (depicting happy, sad, angry, and scared) and asked to identify the emotion using words

(expressive emotion knowledge). Subsequently, children were given the name of the emotion and asked to identify it out of the series of feeling faces (receptive emotion knowledge). Interviewers were instructed not to give any emotional cues during these tasks in order to assess whether children could label these common emotions without such cues. Responses were scored 0 if incorrect, 1 if the correct valence was given (e.g., 'sad' for 'angry'), and 2 if correct.

Emotion Understanding – Context Cues. To assess their understanding of how social situations can elicit emotion, children were next read 8 vignettes that typically evoke particular common emotions (2 each for happy, sad, angry, and scared) and asked to identify how the character in the story felt (e.g., "Susie got an ice-cream cone; how is she feeling?"; Garner, Jones, & Miner, 1994). Interviewers were instructed not to give any behavioral cues in order to assess whether children could report emotional responses to different situations based on social context cues alone. Responses were scored as above.

Emotion Understanding – Context + Behavior Cues. Children's ability to understand how others are feeling by reading behavioral as well as contextual cues about emotion were next assessed. In this portion of the protocol, interviewers used puppets and emphasized behavioral emotion cues (i.e., vocal and facial expressions) to enact stories depicting 8 situations in which the main character likely would experience happiness, sadness, anger, or fear (Denham, 1986). At the end of each story, children were asked to identify how they thought the protagonist might feel. Responses were scored as above.

Data Reduction for Child Interviews. Following Denham (1986), children's responses on the emotion interviews were standardized within each affective domain (happy, angry, sad, scared), and summary scores were computed to capture Emotion Knowledge (sum of expressive and receptive expression recognition for all emotions; Cronbach's α=.63), Emotion Understanding – Context Cues (Cronbach's α=.74), and Emotion Understanding – Context + Behavior Cues (Cronbach's α=.71).

Results

Preliminary Analyses

We tested for sex and age differences in observed behaviors (using a series of one-way ANOVAs and correlations, respectively) and found some sex differences in social behavior. Specifically, girls spent more time in solitary constructive play (M=37%) than boys (M=25%) [F(1,29)=6.13, p<.05], boys spent more time in interactive play (M=39%) than girls (M=24%), [F(1,29)=12.81, p<.05], and boys showed more mild antagonism (M=1.61 acts) than girls (M=0.49 acts), [F(1,29)=10.73, p<.05]. Subsequent analyses using these variables were conducted covarying sex. There were no effects of age on observed behavior.

Goal 1: Describing Social and Emotional Competence in Preschool Classroom Setting

Emotion Display States. Children displayed predominantly neutral affective states during the mean duration of 10 minutes of observation time (see Table 1). Most children displayed at least some positive emotion, and 75% of children displayed at least some negative emotion. Emotionally negative dysregulation was not observed. Behavioral dysregulation was infrequent on average (1% of the time), but 71% of children showed at least some dysregulation.

Social Engagement States. Children spent most of their time in solitary constructive, social attentive, or interactive play (about 30% of the time in each; see Table 1). Children spent little time in conflict, nonplay, or collaborative play. However, only 36% of children spent no time in conflict, so most children were engaged in conflict at some point during the 10-minute observation period. The majority of children observed (55%) spent at least some time in collaborative play.

Target Events. On average, children engaged in almost one aggressive act per 10-minute period. Only 23% of children showed any aggression, however. The mean rate of mild antagonism was 2 ½ acts per 10 minute period; 55% of children engaged in at least some mild antagonism. The average rate of prosocial behavior was about 2 prosocial acts per 10 minute period; 61% of children engaged in at least one prosocial act.

We used correlations (and partial correlations controlling for sex when appropriate) to examine how observed emotion displays were associated with other observed behaviors, covarying sex when necessary (see Table 2). Neutral and positive emotion displays were unrelated to social engagement state, but neutral displays were negatively related to aggression, and positive displays were positively related to prosocial behavior. Negative emotion displays were positively related to conflict and to aggression. Behavioral dysregulation was positively related to aggression and negatively related to social attention.

Correlations (and partial correlations covarying sex when appropriate) were also used to examine how observed social behaviors were related to target events (see Table 2). Conflict was positively associated with aggression and mild antagonism; solitary constructive was negatively associated with aggression and prosocial behavior; and interactive play was positively associated with prosocial behavior.

Goal 2: Examining Correlates of Emotional Behavior in the Classroom

Correlations (and partial correlations covarying sex when appropriate) were used to examine associations between observed classroom behaviors and children's verbal abilities and social-cognitive skills regarding emotions (see Table 3). Emotion knowledge was negatively associated with observed conflict, aggression, and mild antagonism, and positively associated with collaborative play. Emotion understanding was not associated with observed behaviors. Children's verbal abilities were negatively related to their observed hyperactive / behaviorally dysregulated behavior.

Correlations (and partial correlations covarying sex when appropriate) were also used to examine associations between observed social and emotional behaviors and teacher-reported child functioning. With regard to emotions, teacher-reported regulation was negatively related to observed negative displays and conflict, and positively related to prosocial behavior (see Table 4). Teacher-reported lability was positively related to negative emotion displays and behavioral dysregulation.

With regard to social skills (see Table 5), teacher-reported assertion was positively related to observed collaborative play and prosocial behavior, teacher-reported self-control was negatively related to negative emotion displays, teacher-reported prosocial behavior was related to observed prosocial behavior, and teacher-reported cooperative behavior was negatively related to observed aggression.

With regard to problem behaviors and classroom adjustment (see Table 6), teacher-reported aggression was negatively related to observed prosocial behavior, teacher reported anxiety was positively related to observed conflict and aggression, and teacher-reported overall classroom adjustment was positively related to observed prosocial behavior.

Discussion

A primary goal of the current study was to provide descriptive data on low-income children's observed social and emotional behavior in classroom settings. We achieved this by using handheld technology to conduct live classroom observations. Handheld computers allowed us to document low-income preschoolers' social and emotional behavior without interrupting classroom activities, and provided an ecologically valid and feasible way to gather intensive observational data in a classroom-friendly, efficient, and unobtrusive manner. Collecting observational data in this manner, in addition to gathering teacher reports about child functioning and assessing children's social-cognitive abilities, allowed us to examine how the way children behave in the classroom relates to other indicators of their early school adjustment.

Social and Emotional Behavior in the Classroom

We found that children displayed predominantly neutral affect in the classroom, although almost three-quarters of children displayed some negative emotion, and almost all children displayed some positive emotion (over half of the children observed also displayed prosocial behavior). Children spent relatively short amounts of time in positive or negative emotional states, but negative emotion displays were related to teacher-rated competence in different areas, and also to observed aggression and conflict, underscoring the salience of negative displays in the

classroom setting. With regard to observed social behavior, children exhibited mostly either solitary constructive, social attentive, or interactive play, with the majority of children also engaging in conflict (64%), solitary nonplay (90%), and collaborative play (55%) for less extended periods. Emotionally negative dysregulation was not observed; such displays may be more frequent in more challenging circumstances (e.g., clean-up time). The level of challenge in a situation can have a powerful effect on emotional behavior (Miller, McDonough, Rosenblum, & Sameroff, 2002). Thus, in future work it would be interesting to document social and emotional behavior in different situations that vary in level of challenge in order to examine how specific situations may affect children's social and emotional behavior within the classroom setting.

In addition to documenting the amount of time children spent engaged in different social and emotional behaviors, our classroom observations also allowed us to observe how emotion displays related to the type of social interaction in which children were engaged. Not surprisingly, we found that displays of negative emotion, aggression, and conflict tended to co-occur, suggesting that although such events may be relatively rare in the preschool classroom, they are likely intense emotional experiences that require children to actively regain control of their emotions and may require teacher intervention. In contrast, positive emotion displays were associated with observed prosocial behavior; that is, children who engaged in more prosocial behavior also showed more positive emotion. Children who engaged in more prosocial behavior also engaged in longer periods of interactive play, which may reflect the likely reciprocal relation between prosocial acts and the ability to maintain sustained periods of non-conflictual social interaction with peers. Dysregulated behavior was associated with less social attention and more aggression, suggesting that behavioral control is important for competent social engagement. It is important to note that these data do not allow us to determine the causal direction of such associations. Exploring the interplay between emotional displays and social engagement in more detail by examining state transitions and temporal relations between social and emotional displays will be an important way to address this issue in future work.

Observed Classroom Behavior and Other Indices of Child Functioning

An additional goal was to examine how observed classroom behavior was related to other aspects of child functioning, as assessed by child interviews and teacher reports. We found that children's social engagement, but not their emotional displays in the classroom were related to social-cognitive skills, specifically, emotion knowledge. Emotion knowledge was negatively related to observed conflict, aggression, and mild antagonism, and positively related to collaborative play. Children who possess the ability to identify others' emotions may be more able to engage in extended periods of collaborative play because they are able to tell how others are feeling and coordinate their behaviors with the emotional state of their peers (Denham, 1998). Conversely, children who do not possess strong abilities to read others' emotional states may engage in more conflict behavior and aggression because they cannot tell when to leave another child alone, or may spend so much time in conflict they do not partake in the give-and-take negotiations with peers that are crucial for the development of effective social-cognitive skills (Killen, 1989). Again, the causal direction of this association cannot be determined from these data. However, this finding provides some evidence for the reasoning behind programs that work to teach social-cognitive skills like emotion knowledge in order to foster social competence in preschool (e.g., Preschool PATHS; Domitrovich, Cortes, & Greenberg, 2002).

Another important finding was that observed dysregulated behavior in class was negatively related to children's verbal abilities. This finding supports other research on the link between language difficulties and behavior problems (e.g., Arnold, 1997; Lonigan, Bloomfield, Anthony, Bacon, Phillips, & Samwel, 1999), a connection that is deservedly beginning to receive increased attention, particularly with regard to low-income children who are more likely to have language delays than other children (Whitehurst, 1997). It may be that children who do not possess the verbal abilities to make their needs or desires known to others in the classroom become frustrated and thus act out in class, or it may be that children who spend significant amounts of time running around and acting out in class are missing out on crucial opportunities to

develop their language skills. Again, although the causal nature of the link between verbal abilities and dysregulated behavior cannot be determined using these data, there is increasing evidence that there is a strong connection between language difficulties and behavior problems that has important implications for a child's functioning in the preschool classroom setting (e.g., Arnold, 1997; Bonica, Yershova, Arnold, Fisher, & Zeljo, 2001).

Although there were only few associations between observed behaviors and teacher reports of child functioning, it appears that teachers may view certain classroom behaviors as particularly salient. For example, teachers' reports of poor functioning in different areas were related to child displays of negative emotion and conflict in class. Furthermore, children's observed prosocial behavior and collaborative play were related to teachers' reports of children's effective emotional functioning, social skills, and classroom adjustment. Teachers may be picking up primarily on the classroom behaviors that they view as notably positive or negative when determining how children are functioning in these different areas.

Implications

The above findings have important implications for classroom practice. Although using a formal behavioral coding system such as the one in the current study is likely to be beyond the time resources of most preschool teachers, reviewing findings regarding observed classroom behaviors with teachers may encourage them to use emotion-laden classroom interactions as didactic opportunities for enhancing children's social and emotional competence. Due to the practical challenges of maintaining a busy preschool classroom, children who enter into conflict are often separated rather than encouraged to work out their differences and see the emotional consequences of their behaviors. Using such emotionally charged events as "teachable moments" is crucial, however, in helping children learn how to manage their negative emotions appropriately in the classroom context.

Although we found that negative emotion displays and conflicts accounted for only a small fraction of children's observed classroom behavior, teachers typically report such behaviors

as highly stressful. Thus, it is important to help develop ways for teachers to manage such behaviors when they do occur, for example, by modeling simple conflict resolution skills and encouraging children to verbalize their feelings to their peers. Furthermore, teachers who readily notice and reward children's prosocial and collaborative play behaviors, in addition to identifying and acting on children's negative emotions and conflict, are in the best position to encourage the former behaviors and discourage the latter. Sharing the results of studies such as this one with teachers may help them develop strategies not only to reduce the time children spend in conflict or displaying negative emotions, but perhaps even more importantly, to identify and encourage specific prosocial behaviors in which children engage.

Finally, findings also have implications with regard to the methodology used in policy and evaluation research for programs like Head Start. First, it is crucial to consider children's emotional and social competence, as well as their cognitive or academic skills, when assessing their success in Head Start (in addition to evaluating program-level success; see Raver & Zigler, 1997). This view is highly consistent with Head Start's whole child approach. Second, it is vital to use multiple methods and to gather information from multiple informants when evaluating children's social and emotional competence. Results from the current study suggest that observing children's behavior in the classroom setting, in addition to gathering teacher reports and conducting individual child interview-based assessments, may be a particularly useful indicator of how a child is functioning in the classroom, and may be helpful when considering how to adapt classroom practices to maximize the effects of the preschool experience for an individual child. Although costly, using multiple methods, particularly observations, to assess children's social and emotional competence is crucial if we wish to develop an understanding of these complex constructs at this age and to use such understanding to enhance children's early school experiences and promote their mental health.

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Table 1

Descriptives for Observed Classroom Behaviors (n=31)

	Range (% or #)	M (SD)	% with Any
Emotion State			
Neutral	63-97	89 (7)	100
Positive	0-24	8 (5)	97
Total Negative	0-13	3 (3)	74
Behavioral Dysregulation	0-3	1 (1)	71
Negative Dysregulation	--	0 (0)	0
Social State			
Conflict	0-7	1 (2)	64
Solitary Nonplay	1-16	5 (4)	90
Solitary Constructive	5-54	31 (13)	100
Social Attention	19-50	29 (8)	100
Interactive	7-57	28 (12)	100
Collaborative	0-33	6 (8)	55
Target Events			
Aggression	0.0-2.0	0.31 (0.60)	23
Mild Antagonism	0.0-4.5	1.18 (1.44)	55
Prosocial	0.0-2.5	0.73 (0.79)	61

* Duration of Behavior or Number of Events in 10-minute period

Table 2

Associations between Observed Emotional and Social Classroom Behaviors (covarying sex when appropriate) (n=31)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Emotion State													
Neutral (1)	1.0												
Positive (2)	-.89*	1.0											
T. Negative (3)	-.73*	.39*	1.0										
Beh. Dysregulation (4)	-.18	-.12	.01	1.0									
Social State													
Conflict (5)	-.22	-.08	.54*	.13	1.0								
S. Nonplay (6)	-.11	-.04	.19	.29	.04	1.0							
S. Constructive (7)	.07	-.22	.28	-.25	-.09	.01	1.0						
Social Attention (8)	.13	-.12	.06	-.37*	.09	-.12	.03	1.0					
Interactive (9)	-.09	.22	-.26	.28	-.05	-.26	-.63*	-.23	1.0				
Collaborative (10)	.02	.13	-.30 [t]	.12	-.17	-.05	-.51*	-.52*	.02	1.0			
Target Events													
Aggression (11)	-.36*	.12	.44*	.37*	.69*	.17	-.27*	-.11	.19	-.08	1.0		
Mild Antagonism (12)	-.06	-.06	.17	.12	.52*	.02	-.30	-.07	.27	.00	.53*	1.0	
Prosocial (13)	-.28	.39*	-.09	.24	.02	.08	-.49*	-.24	.41*	.27	.32 [t]	-.05	1.0

* $p < .05$. [t] $p < .10$.

Table 3

Associations between Observed Classroom Behaviors and Social Cognitive Skills, Verbal Abilities (covarying sex) (n=31)

	Social-Cognitive Skills regarding Emotion			
	Knowledge	Situational Cues	Situational + Behavioral Cues	PPVT Score
Emotion State				
Neutral	-.11	-.04	.11	-.06
Positive	.24	.08	-.04	.20
Total Negative	-.15	-.13	-.16	.00
Behavioral Dysregulation	.06	.23	-.04	-.42*
Social State				
Conflict	-.60*	-.24	-.21	-.26
Solitary Nonplay	.06	.03	.08	-.03
Solitary Constructive	.09	-.14	.01	-.06
Social Attention	-.30	-.32 ^{t}	-.22	-.10
Interactive	-.16	.10	-.12	.00
Collaborative	.36*	.30	.24	.22
Target Events				
Aggression	-.37*	-.12	-.07	-.13
Mild Antagonism	-.41*	.01	.00	-.03
Prosocial	.14	.17	.23	.21

* $p < .05$. ^{t} $p < .10$.

Table 4

Associations between Observed Classroom Behaviors and Teacher-Reported Emotion Regulation (covarying sex) (n=31)

	Regulation	Lability	Dysregulation
Emotion State			
Neutral	.21	-.30	-.10
Positive	.03	.09	.13
Total Negative	-.43*	.36*	-.04
Behavioral Dysregulation	-.23	.41*	.14
Social State			
Conflict	-.41*	.13	.04
Solitary Nonplay	-.09	.31 ^{t}	.14
Solitary Constructive	-.16	.06	-.33 ^{t}
Social Attention	-.11	-.23	.03
Interactive	.19	-.06	.24
Collaborative	.20	.03	.03
Target Events			
Aggression	-.31 ^{t}	.13	.08
Mild Antagonism	-.01	-.11	.06
Prosocial	.44*	-.30 ^{t}	-.23

* $p < .05$. ^{t} $p < .10$.

Table 5

Associations between Observed Classroom Behaviors and Teacher-Reported Social Skills (covarying sex) (n=31)

	Assertive	Self-Control	Peer Exclusion	Prosocial	Cooperative
Emotion State					
Neutral	.01	.31 ^{t}	-.12	.01	.18
Positive	.19	-.09	.03	.08	-.06
Total Negative	-.20	-.41*	.13	-.15	-.21
Behavioral Dysregulation	-.25	-.34 ^{t}	.18	.05	-.23
Social State					
Conflict	-.29	-.29	.17	-.23	-.32 ^{t}
Solitary Nonplay	-.06	-.34 ^{t}	.25	.05	-.12
Solitary Constructive	-.24	.05	-.08	-.16	.22
Social Attention	-.26	.19	.13	-.03	.12
Interactive	.17	.06	-.08	.13	-.21
Collaborative	.36*	-.04	-.06	.10	.02
Target Events					
Aggression	-.09	-.25	.11	.13	-.45*
Mild Antagonism	.09	-.04	.11	.11	-.29
Prosocial	.39*	.28	-.31 ^{t}	.49*	.24

* $p < .05$. ^{t} $p < .10$.

Table 6

Associations between Observed Classroom Behaviors and Teacher-Reported Problem Behaviors, Classroom Adjustment (covarying sex) (n=31)

	Aggression	Anxiety	Hyperactive	Classroom Adjust
Emotion State				
Neutral	-.19	-.12	.11	.13
Positive	.07	-.07	-.18	.00
Total Negative	.20	.21	-.04	-.17
Behavioral Dysregulation	.25	.35 ^{t}	.18	-.29
Social State				
Conflict	.16	.40*	.26	-.31 ^{t}
Solitary Nonplay	.05	.14	-.16	-.09
Solitary Constructive	-.17	-.23	-.28	.03
Social Attention	-.04	.03	-.14	-.18
Interactive	.07	.22	.36 ^{t}	.04
Collaborative	.07	-.12	.06	.16
Target Events				
Aggression	.13	.59*	.21	-.16
Mild Antagonism	.10	.20	.24	.09
Prosocial	-.40*	-.12	-.23	.36*

* $p < .05$. ^{t} $p < .10$.

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